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ABSTRACT

This report provides data from a larger study investigating consumer socialization of children which focused on the processes by which children acquire knowledge skills and attitudes related to consumer behavior. The research has utilized two theoretical perspectives: cognitive development and information processing theories. The data reported are taken from personal interviews with 615 kindergarten, third and sixth grade children and are concerned with (1) age-related differences in responses to television commercials and in use of information in product situations, and (2) interrelationships between some of these variables within age groups. A "cognitive filter" is posited-assumed for those children who clearly understand advertisers' selling intent. Comparisons were made between those children who appear to have a "cognitive filter" and those who don't. Among the results are findings that older children recall and judge on more dimensions and are more likely to have a "cognitive filter," and that those with "cognitive filters" appear more discriminating. Overall however, children remain unsophisticated consumers, and is therefore suggested that a combined cognitive development information processing approach is crucial for research on policy issues in advertising to children. (Premiums in cereals provide an illustration.) (MS)

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Children's Information Processing of Television Advertising

by

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Children's Information Processing of Television Advertising

In recent years, researchers, practitioners, and policy makers in industry and government have evinced considerable interest in the topic of children's responses to television advertising. Under this rubric, the specific interest is often in one of three areas.

First, researchers have been concerned with television advertising practices affecting children, and related policy issues (e.g., Ward, 1972; Rubin, 1972; Shimp, Dryer, and Divita, 1975).

Second, researchers have been interested in marketing management issues involved in promoting to children (McNeal, 1964; James, 1971; Schiele, 1974).

Third, recent attention has been devoted to the topic of consumer socialization (Ward and Wackman, 1973; Ward, 1974; Ward, Wackman, and Wartella, 1977; Moore and Stephens, 1975; Calder, Robertson, and Rossiter, 1975). The topic is usually defined as having to do with the processes by which children acquire knowledge, skills, and attitudes related to consumer behavior.

The work of myself and my colleagues, Scott Ward and Ellen Wartella, has focused largely on this third area, but as you will see, it spills into the other two areas as well. Our research has utilized two complementary theoretical perspectives--cognitive development and information processing theories. Let me begin by briefly discussing each of these theoretical orientations.

OVERVIEW OF COGNITIVE DEVELOPMENTAL AND INFORMATION PROCESSING CONCEPTS

Cognitive developmental theory posits a cognitive representational or coding process intervening between a stimulus and a child's response. These

cognitive structures, or intergrated patterns of thought and behavior, which change with age. Kohlberg (1971) refers to these cognitive structures as "rules used for processing information and connecting experienced events." The qualitative changes in thought which children undergo are conceptualized as "stages," which are considered as (1) distinct, qualitative differences in children's modes of thinking or problem solving; (2) invariant so that environmental factors may influence the pace of development, but not the sequence; (3) structured wholes, so that a child at a given stage will show thinking typical of his stage in diverse situations; and (4) not in conflict with one another--each successive stage encompasses lower stages into higher levels of organization.

Piaget (1928, 1952) posits four developmental stages. Of particular interest in our research are the differences between children in the two middle stages--preoperational and concrete operational--which roughly encompass the ages two to eleven since children in these two stages are the focal age group in current policy controversies. Preoperational thinking is characterized by developing symbolic abilities (such as language and mental imagery), but the child at this stage is very much "perceptually bound," i.e., reality is understood primarily in terms of the immediate perceptual environment. By the concrete operational stage, the child has developed cognitive skills which enable him to effectively mediate perceptual activity, but only when dealing with concrete objects. Also, children at the concrete operational stage can focus on more dimensions of a situation than can younger, peroperational children, who tend to focus on one dimension. Other cognitive abilities differentiate preoperational and concrete operational developmental stages too, but our research has primarily focused on this perceptual boundness dimension.

The second orientation we have adopted, the information processing perspective is a particularly useful one for studying consumer behavior since so much of consumer behavior involves the use of information. We have used this perspective,

shown in Figure 1, to identify behaviors and skills children may utilize as they develop as consumers. We have focused on initial and central processing of information in two areas: (1) children's responses to TV commercials, and (2) children's responses to product choice situations.

[FIGURE 1 ABOUT HERE]

Developmental concepts are useful in understanding children's selection, evaluation, and use of information in both areas.

METHODOLOGY

Data I will discuss here were collected in personal interviews with 615 kindergarten, third, and sixth grade children in Boston and Saint Paul, Minnesota. In this research, we also interviewed the mothers of these children. A complete report of both the children's and mother's data will be published in January, 1977 in Children Learning to Buy: The Development of Consumer Information Processing Skills (Ward, Wackman, Wartella, 1977).

Today, I simply want to report some interesting data from this study. First, I will discuss age-related differences in responses to TV commercials and in using information in product situations. Second, I will discuss some interrelationships between some of these variables within age groups.

RESULTS

Responses to Television Commercials.

In assessing children's responses to television commercials, we generally asked open-ended questions in order to provide the child with an opportunity to respond in any way he/she wished. Thus, to determine what information children

selected from a commercial, we asked: "What is your favorite TV commercial--the one you like the most? Tell me what happens in this commercial." To assess their understanding of commercials, we asked: "When you watch TV you must see a lot of commercials. What is a TV commercial?"

Our data indicate major changes between kindergarten and sixth grade in children's responses to commercials. For example, as Table 1 indicates, young children are likely to recall just a single element in a commercial or several images in random fashion. With increased age, children recall more features and relate them in the proper sequence to represent the story told in the commercial.

[TABLE 1 ABOUT HERE]

As Table 2 indicates, young children are much less likely to understand the intent of commercials than are older children. Fully two-thirds of the kindergartners have no awareness of the persuasion function of advertising compared to small numbers of third and sixth graders. And as Table 3 indicates, a majority of kindergartners have considerable confidence in commercials, saying that commercials always tell the truth. Perhaps this response results from their general lack of awareness of the selling intent of TV commercials.

[TABLES 2 AND 3 ABOUT HERE]

These data clearly indicate major changes between kindergarten and third grade in children's selection of information from TV commercials, in their understanding of the intent of commercials, and in their evaluation of commercials. Are there also major changes during this period in how children use information in product choice situations?

Responses In Product Choice Situations.

To assess children's use of information in making product choices, we used

two measurement strategies. First, we posed a hypothetical product choice situation and asked them to indicate the kind of information they would want about the product--a television set. As data in Table 4 indicates, younger children were somewhat more likely to inquire about physical attributes of the product--typically, whether it was black and white or color. On the other hand, both groups of older children--and particularly the sixth graders--were much more likely to ask about performance, price, and functional attributes than the younger children.

Our second measurement strategy involved presenting children with two brands of three products--toothpaste, peanut butter, and a milk additive--then asking them to choose one of the two brands and tell us why they selected the one they did. As Table 5 shows, children of each age were likely to use perceptual attributes, such as color, taste, liking the package, etc., in choosing between the brands. On the other hand, older children are much more likely to use ingredients and functional characteristics in choosing a brand.

[TABLES 4, 5, 6 ABOUT HERE]

In the real product choice situations, we also asked the children to indicate how much better the brand he chose was. Three alternative responses were allowed--Brand A is a lot better, a little better, or the two brands are about the same. From these questions, we developed a measure of strength of brand preference. Kindergarten children exhibited considerably greater preference for their chosen brand compared to the two older age groups, as Table 6 indicates. Perhaps this is because older children evaluate brands on more dimensions than the younger children. If an older child feels one brand is better on one dimension and the second brand is better on another, then he is likely to perceive his chosen brand as just slightly better overall. On the other hand, the young child,who typically

cited only one dimension in his comparison, may judge his chosen brand as much better because it was superior on just the single dimension.

In any case, data from both the hypothetical and real product choice situations indicates that older children use both more information and more kinds of information--particularly performance-oriented, functional information--in making product choices. And this greater use of information may result in older children having less strong brand preferences.

We have now seen that major changes occur between kindergarten and third grade toward greater sophistication in children's responses to TV commercials and in their use of information. One question of obvious interest is whether children who respond to TV commercials in more sophisticated ways are also more sophisticat in their use of information in product choice situations.

Relationships Between Understanding Purpose of Commercials and Responses in Produc Situations.

In practical terms, the question is one of whether children who understand the selling intent of commercials may have a kind of "cognitive filter" which may lessen the persuasive effects of commercials. There is little doubt from data collected by us and by many other researchers that commercials do motivate children to buy products or ask their parents to buy products for them. However, having a "cognitive filter" of sorts may reduce the persuasive effects of commercials in several ways.

First, a cognitive filter might lead children to be skeptical of advertising claims. As we saw, only among kindergartners do appreciable numbers of children believe that commercials always tell the truth. Second, this filter might have the impact of reducing the frequency of children's asking for products. Third, the cognitive filter may serve the function of directing the child away from advertising-oriented attributes of a product (such as brand name or product

symbols) and toward performance and functional attributes in product choice decisions.

To assess these possibilities, we divided our sample into two groups in terms of their responses to the question, "what is a TV commercial?" Children who explicitly stated that commercials tried to sell products were assumed to have a "cognitive filter" in that they clearly understood advertisers' selling intent. Children who did not explicitly mention this selling intent were assumed to not have the filter. In the following analyses, we refer to these groups as "filters" and "nonfilters". Only 18 percent of the kindergartners were classified as filters, but 73 percent of the third graders and 90 percent of the sixth graders we classified so. Since so few of the sixth graders were nonfilters, we do not include them in the analyses to follow.

To determine whether knowledge of the selling intent of commercials serves as a cognitive filter to reduce frequency of product requests, we analysed purchase requests for food, nonfood grocery, and child relevant products. Among kindergartners, filters asked for food products and for nonfood products less frequently than nonfilters (Table 7). However, they show little tendency to ask for child relevant products less frequently. Among third graders, children do not differ in frequency of purchase requests for any of the three product types.

[TABLE 7 ABOUT HERE]

These data suggest that a "cognitive filter," indexed here by understanding the selling intent of commercials, does reduce the frequency of purchase requests, but only for the youngest children in our sample. In order to determine whether it serves a different function for the third graders we examined whether the filter serves to direct children's attention to performance and functional attributes in product choice decisions. First, we analysed the

kinds of information children sought in the hypothetical television-buying situation. Second, we looked at the kinds of information they used in differentiating between brands in the brand choice situations. Third, we examined the strength of children's brand preference in our product choice situations.

As data in Table 8 indicate, among both kindergartners and third graders, filters were more likely to inquire about performance characteristics of the product--television--than nonfilters. Similarly, as Table 9 shows, in comparing two brands of three different products, filters were more likely to use performance and ingredients attributes in comparing the brands than were nonfilters. Lastly, in these product choice situations, filters exhibited less strength of brand preference (Table 10).

[TABLES 8, 9, 10 ABOUT HERE]

Thus, for both kindergartner and third grade children, cognitive filtering appears to direct children toward performance and function attributes. Further, cognitive filtering appears to result in lesser reliance on brand name as a powerful differentiating characteristic between brands of the same product.

These results suggest that children who understand the persuasive intent of commercials are somewhat more effective information processers than are children who don't understand persuasive intent. However, even these children are not very sophisticated consumers. Thus, it would be very misleading to use this data to conclude that children need not be protected from potentially misleading advertising.

CONCLUSION

What I have tried to do today is indicate the kind of research approach we have taken and show some of the kinds of data generated using a cognitive

development/information processing approach.. We think some of this data bears on various current policy issues.

I would like to conclude with a stronger statement, however. It is that a combined cognitive development/information processing approach is crucial for research on most policy issues in advertising to children since these issues typically involve questions of information processing. Let's take as an example the premium advertising issue.

This issue involves whether advertising of a premium tends to sell the premium itself to the child, or whether this advertising sells the primary product which has a premium as one of its attributes. In our conceptual terms, this becomes a question of how a child interprets and represents information about the product and premium. At least two alternatives are clearly possible. (1) The product, such as a cereal, and the premium are seen as two separate objects. (2) The premium is seen as an attribute of the primary product--perhaps a very important one--but nevertheless clearly a part of the product.

In Rossiter's (1975) recent research, a large percent of the children drew a premium on a cereal box when asked to draw a cereal box. He interprets this a indicating that children see premiums as an attribute of cereal. However, when he asked the children to verbally describe their favorite cereal, few made any reference to premiums; instead, they mentioned taste, sweetness, etc. This suggests the possibility that the subjects in Rossiter's study were responding to two different objects. On the one hand, they were asked to draw a cereal box, a for the children, premium is an important attribute of the object "cereal box." On the other hand, they were asked to describe their favorite cereal, and for them, premium is not an important attribute of the object "cereal."

If this alternative interpretation is correct, then it would appear that most children are representing premium and cereal as two different objects. Of course, this would increase the likelihood that advertising of a premium is

indeed selling the premium to the child, rather than the primary product.

Whether my interpretation or Rossiter's is correct is not known, of course. What is needed is more definitive research on how children of different ages do, in fact, represent products and product information cognitively. And these are exactly the kinds of research questions that are addressed when a cognitive development/information processing perspective is used.

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Figure 1.

An Information Processing Model of Children's Consumer Behavior

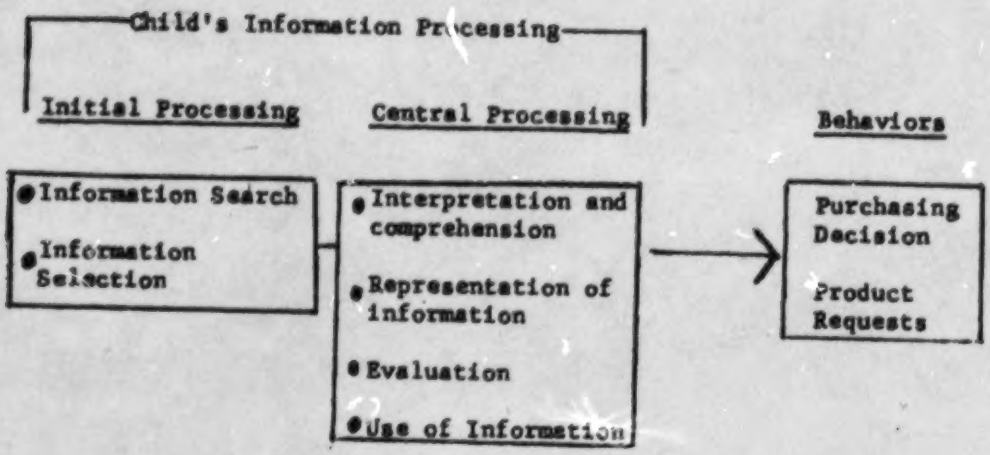

Table 1. Recall of favorite commercial by grade level.

	K	3	6	Total
Recall unidimensional	31%	12%	9%	17%
Recall multidimension and random	50	36	27	37
Recall multidimension and coherent	17	48	52	40
Recall multidimensional, coherent and with selling message	2	4	12	6
	100%	100%	100%	100%
N =	(166)	(187)	(193)	(546)

$x^2 = 93.40$ (6 d.f.) $p < .001$

Table 2. Awareness of "what a commercial is" by grade level.

	K	3	6	Total
Low awareness	68%	18%	2%	27%
Medium awareness	26	57	57	48
High awareness	6	25	41	25
	100%	100%	100%	100%
N =	(205)	(202)	(208)	(573)

$x^2 = 114.63$ (4 d.f.) $p < .001$

Table 3. Perception of how frequently commercials are truthful by grade level.

	K	3	6	Total
Always truthful	51%	12%	3%	22%
Just once in a while untruthful	31	54	35	40
Sometimes untruthful	15	21	42	26
Most of the time untruthful	3	13	20	12
	100%	100%	100%	100%
N =	(198)	(202)	(208)	(608)

$x^2 = 195.01$ (6 d.f.) $p < .001$

Table 4. Children's information selection about a television set by grade level.*

	K	3	6	Total	x^2
Physical attributes	84%	87%	71%	80%	19.48 (2 d.f.) p <.(
Performance attributes	36%	49%	57%	48%	16.84 (2 d.f.) p <.(
Price attributes	15%	31%	41%	30%	27.99 (2 d.f.) p <.(
Functional attributes	13%	26%	43%	28%	38.21 (2 d.f.) p <.(
N =	(157)	(199)	(202)	(538)	

*Because of multiple responses, columns total more than 100 percent.

Table 5. Mean number of different types of attributes per product used to compare brands at each grade level.

	K	3	6
Perceptual attributes	.88	.93	.93
Ingredients	.17	.26	.35
Functional attributes	.45	.66	.70
Total information	1.50	1.85	1.98
N =	(205)	(202)	(208)

Table 6. Strength of brand preference by grade level.

	K	3	6	Total
Low	16%	32%	34%	27%
Medium	34	38	41	38
High	50	30	25	35
	100%	100%	100%	100%
N =	(205)	(202)	(208)	(615)

$x^2 = 35.93$ (4 d.f.) $p < .001$

Table 7. Frequency of purchase requests for kindergartners with and without a cognitive filter.

FOOD	No Filter	Filter
High	46%	22%
Medium	46	67
Low	8	11
	100%	100%
N =	(167)	(37)
	$x^2 = 7.48$ (2 d.f.)	$p < .05$

NON-FOOD GROCERY		
High and medium	21%	0%
Low	47	49
Very low	32	51
	100%	100%
N =	(167)	(37)
	$x^2 = 10.84$ (2 d.f.)	$p < .05$

CHILD RELEVANT		
High	16%	8%
Medium	48	46
Low	36	46
	100%	100%
N =	(167)	(37)
	$x^2 = 1.81$ (2 d.f.)	n.s.

Table 8. Number of performance attributes in TV purchases for children with and without a cognitive filter.

	Kindergarten		Third Grade	
	No Filter	Filter	No Filter	Filter
0	37%	24%	31%	20%
1	38	27	49	45
2	25	51	20	35
	100%	100%	100%	100%
N =	(168)	(37)	(55)	(147)
	$x^2 = 9.57$ (2 d.f.) $p < .05$		$x^2 = 5.12$ (2 d.f.) $.05 < p < .10$	

Table 9. Use of performance and ingredients attributes in brand comparisons for children with and without a cognitive filter.

	Kindergarten		Third grade	
	No Filter	Filter	No Filter	Filter
Low	43%	27%	29%	20%
Medium	36	25	36	21
High	21	48	35	59
	100%	100%	100%	100%
N =	(168)	(37)	(55)	(147)
	$x^2 = 11.94$ (2 d.f.) $p < .01$		$x^2 = 9.70$ (2 d.f.) $p < .05$	

Table 10. Strength of brand preference for children with and without a cognitive filter.

	Kindergarten		Third grade	
	No Filter	Filter	No Filter	Filter
Low	37%	54%	49%	56%
Medium	28	32	31	34
High	35	14	20	10
	100%	100%	100%	100%
N =	(168)	(37)	(55)	(147)
	$x^2 = 6.62$ (2 d.f.) $p < .05$		$x^2 = 4.07$ (2 d.f.) $.10 < p < .20$	